Regulatory Impact Assessment

Appendixes to Preamble

Appendix A.--Regulatory Impact Assessment for Final Rule Implementing the Organic Foods Production Act of 1990

The following regulatory assessment is provided to fulfill the requirements of Executive Order 12866. This assessment consists of a statement of the need for national organic standards, a description of the baseline for the analysis, a summary of the provisions of the final U.S. Department of Agriculture (USDA) rule and the alternative approaches that were examined, and an analysis of the benefits and costs. Much of the analysis is necessarily descriptive of the anticipated effects of the final rule. Because basic market data on the prices and quantities of organic goods and the costs of organic production are limited, it is not possible to provide quantitative estimates of all benefits and costs of the final rule. The cost of fees and recordkeeping in the final USDA rule are quantified, but the anticipated benefits and other costs are not. Consequently, the analysis does not estimate the magnitude or the direction (positive or negative) of net benefits.

Under the final rule, USDA will implement a program of uniform standards of production and certification, as mandated by the Organic Foods Production Act of 1990 (OFPA). The primary benefits from implementation of USDA's National Organic Program (NOP) are standardizing the definitions and the manner in which organic product information is presented to consumers, which may reduce the cost associated with enforcement actions in consumer fraud cases, and improved access to domestic and international markets from harmonizing the various State and private organic standards and elevating reciprocity negotiations to the national level.

The costs of this rule are the direct costs for accreditation and the costs of complying with the specific standards in the proposal, including the reporting and recordkeeping requirements. Certifiers will be charged fees based on the actual costs of the accreditation work done by USDA staff. Smaller certifiers with less complex programs are expected to pay somewhat lower fees. Organic farmers, ranchers, wild-crop harvesters, and handlers will have to pay fees for organic certification from a State or private certifier but will not be charged any additional fees by USDA. The direct accreditation costs to an estimated 59 certifying agents (including all 49 current U.S. certifiers and an estimated 10 foreign agents) during the first 18 months following the final rule are estimated to be approximately $92,000 to $124,000 and are being subsidized with appropriated funds derived from the taxpayers. In addition, USDA will use appropriated funds to cover approximately $270,000-$448,000 in hourly charges for site evaluation during this period and for other costs associated with starting up the NOP. The magnitude of other compliance costs for adhering to this regulation--including the costs of becoming familiar with and adopting the national standards--have not been measured. For organic farmers who adhere to State regulations or undergo third-party inspection and certification, the compliance cost may not be large. For those who don't, the costs may be more substantial. The impact of this regulation on small certifying agents and other small businesses has also not been measured but may be significant.

To account for significant rule changes from the proposal and to reflect more up-to-date information, we revised some estimates of benefits and costs. We have

raised our estimates of current certification fees and USDA accreditation fees. Also, we now project higher USDA accreditation fees after the 18-month implementation period. We revised our estimates of the certification fees charged by a representative set of public and private certifiers in the U.S. based on new data, and our new estimates are about 25 percent higher for small and midsized farmers. Small and midsized farmers are now estimated to pay $579 and $1,414 for their first-year certification, respectively. Accreditation costs after the 18-month implementation period are substantially above those estimated in the proposed rule, reflecting a slight increase in the government per diem travel allowance since the proposed rule was published and a change in the projected number of reviewers needed for site evaluations and renewals after the 18-month implementation period. In the proposed rule, USDA had projected that only one reviewer would be needed for site evaluations and renewals that took place after the 18-month implementation period but has changed that projection to two reviewers based on additional experience with the International Organization for Standardization (ISO Guide 65) program. We estimate that initial accreditation costs after the 18-month implementation period will range from $6,120 to $9,700, approximately double our estimate in the March 2000 proposed rule.

Marginal changes have been made in the final rule, in response to comments on the March 2000 proposal, which generally clarify or add flexibility to producer and handler provisions or make them better reflect current industry standards. One key change was to raise the threshold for labeling products as "made with organic ingredients" from 50 percent organic content to 70 percent to be consistent with international industry standards. Although not quantified, we believe that this will increase the cost of the rule. Another key change was to reduce the transition period for a dairy operation to make a whole-herd conversion to organic production in order to make conversion affordable for a wider range of dairy farms, including smaller operations. Although not quantified, we believe that this will decrease the cost of the rule.

The Need for National Standards Over the last several decades, as market demand has grown from a handful of consumers bargaining directly with farmers to millions of consumers acquiring goods from supermarket shelves as well as market stalls, a patchwork of State and private institutions has evolved to set standards and verify label claims. Organically produced food cannot be distinguished visually from conventional food and cannot necessarily be distinguished by taste; therefore, consumers must rely on labels and other advertising tools for product information. Farmers, food handlers, and other businesses that produce and handle organically grown food have a financial incentive to advertise that information because consumers have been willing to pay a price premium for these goods. However, consumers face difficulties in discerning the organic attributes of a product, and many producers and handlers have sought third-party certification of organic claims.

State and private initiatives have resulted in a fairly robust system of standards and certification, and the difficulties in consumer verification have been partially overcome by these initiatives. Private organizations, mostly nonprofits, began developing certification standards in the early 1970's as a way to support organic farming, as well as to strengthen legitimate product claims. The first organization to offer third-party certification, California Certified Organic Farmers, was formed in the early 1970's, and the first State regulations and laws on organic labeling were also passed in the 1970's. Currently, 13 State and 36 private certification programs are operating in the United States, and about half the States currently have some form of regulation. While most States still do not mandate third-party

certification and many organic producers still market goods without certification, large food processors, grain traders, and retailers are increasingly requiring certification, and many growers have turned to certification as a marketing tool.

However, even with increasing pressure for growers to use third-party certification services and increasing availability of these services from State and private certifiers, the discrepancies between the certifiers on organic standards and between the States on certification requirements have resulted in several impediments to market development. The patchwork of variable standards has made producer access to organic markets, international and domestic, uneven. The recent emergence of the industry-developed standards may have mitigated some domestic access problems, but two important impediments remain. They are: multiingredient certification disputes and barriers to foreign markets.

Difficulty Certifying Multiingredient Products

Although the State and private organic standards that have developed over the last several decades have many areas of overlap, particularly for crop production, the differences have caused disagreements among certifying agents over whose standards apply to multiingredient organic processed products. These disagreements have created sourcing problems for food. Disagreements about standards also create sourcing problems for handlers of these multiingredient products. Certifying agents are able to negotiate and maintain reciprocity agreements at some cost. These reciprocity agreements specify the conditions under which certifying agents recognize each other's standards. Although new organic product offerings have emerged at a fast pace during the 1990's, this pace could eventually slow, assuming that the need for costly reciprocity agreements will continue to persist in the absence of national standards.

Barriers to Foreign Organic Markets

In the absence of a national standard, U.S. producers have taken on costs of private accreditation or shipment-by-shipment certification required to gain access to some foreign markets such as the European Union (EU). However, even with these actions, U.S. organic products may have had some difficulties entering other foreign markets due to high information and search costs on the part of foreign buyers. Some foreign buyers of U.S. organic products may incur costs to determine the compatibility of standards. Such costs may have discouraged purchases of U.S. organic products.

Congress passed the OFPA--Title XXI of the Food, Agriculture, Conservation and Trade Act of 1990, U.S.C. Title 7--largely to address these marketing problems. The OFPA mandates that the Secretary of Agriculture develop a national organic program, and USDA's statutory responsibility is the primary reason why USDA has carried out this rulemaking process. The OFPA requires the Secretary to establish an organic certification program for farmers, wild-crop harvesters, and handlers of agricultural products that have been produced using organic methods as provided for in the OFPA. This legislation requires the Secretary to establish and implement a program to accredit a State program official or any private person who meets the requirements of the Act as a certifying agent to certify that farm, wild-crop harvesting, or handling operations are in compliance with the standards set out in the regulation. As stated by the OFPA in section 6501, the regulations are for the following purposes: (1) to establish national standards governing the marketing of certain agricultural products as organically produced products, (2) to assure consumers that organically produced products meet a consistent standard, and (3)

to facilitate interstate commerce in fresh and processed food that is organically produced.

BaselineAfter struggling to build market recognition and supply capacity for many decades, the organic farming industry became one the fastest growing segments of U.S. agriculture during the last decade. Certified organic cropland more than doubled in the United States between 1992 and 1997, and two organic livestock sectors-eggs and dairy-grew even faster (Greene, 2000a). USDA's Economic Research Service estimates that over 1.3 million acres of U.S. farmland were certified in 1997, and more recent data from some of the certifiers indicate that this momentum is continuing (Greene, 2000b). Although national estimates of the amount of uncertified organic acreage are not available, data from California, the largest U.S. producer of organic specialty crops, indicates that most of the State's organic acreage and about half of the growers were certified during the 1997/98 crop year (Klonsky et al., 2000).

Growth in U.S. sales of organic products during the 1990's mirrors the growth in acreage devoted to producing these goods. According to industry data, total organic product sales more than doubled between 1992 and 1996 to $3.5 billion in sales (table 1). More recent industry data on organic sales through natural product stores, the largest outlet for organic products, show annual sales growth continuing in the general range of 20-25 percent annually.

The recent growth in organic production and sales has taken place in the absence of national organic standards but with industry expectation that these standards were forthcoming. While the U.S. organic industry is characterized by an array of certification, production, processing, and marketing practices, there are commonalities throughout the industry.Certification

The number of U.S. certification groups has fluctuated between 40 and 50 during the last decade. Currently, 49 organizations--36 private and 13 State--are advertising that they provide certification services to farmers, handlers (a category that USDA defines to include processors), retailers, or other segments of the food industry. Some certifiers provide services to multiple segments of the food industry. Private certifying agents range from small nonprofit associations that certify only a few growers to large for-profit businesses operating in numerous States and certifying hundreds of producers. Typically, certifying agents review organic production plans, inspect the farm fields and facilities to be certified, periodically reinspect, and may conduct soil tests and tests for residues of prohibited substances. In some cases, certifying agents negotiate reciprocity agreements with other agents.

State laws vary widely on organic certification and registration. Some States, such as California, require only that an organic producer register and make certification voluntary. Other States, including Texas, require certification by the State's own agents, while Minnesota and others accept certification by a private certifying agent. Approximately half of the States have laws that regulate organic production and processing. In many States producers may claim their product is organic but operate without certification or well-defined standards. Many organic producers in States with no State programs voluntarily secure third-party certification to well-defined standards. Certification costs vary with farm size and across certifying agents. Illustrative certification costs are presented in tables 2A and 2B.

Very few certifying agents operate with an external accreditation for the following reasons. There is no law which requires them to be accredited: the price may be

unacceptably high in relation to expected benefits; the certifying agent may be unable to find an accrediting party willing to accredit the particular organic program the certifying agent is marketing; and State programs may believe that their status as a government entity obviates the need for external accreditation.

In 1999, USDA began accrediting certifying agents as meeting ISO Guide 65. It is a valuable recognition that the certifying entity satisfies the business capacity standards of ISO Guide 65. EU authorities have accepted verification of certifying agents to ISO Guide 65 as an interim measure to facilitate exports pending the establishment of a national organic program.Organic Crop and Livestock Production

In 1997, farmers in 49 States used organic production systems and third-party organic certification services on over a million acres of farmland and were raising certified organic livestock production in nearly half the States, according to USDA data (Greene, 2000a). Two-thirds of the farmland was used for growing crops, with Idaho, California, North Dakota, Montana, Minnesota, Wisconsin, Iowa, and Florida as the top producers. Colorado and Alaska had the most organic pasture and rangeland. California overwhelmingly had the most certified organic fruit and vegetable acreage in 1997, but farmers were growing small plots of certified organic vegetables for direct marketing to consumers in over half the States. About 2 percent of the U.S. apple, grape, lettuce, and carrot crops were certified organic in 1997, while only one-tenth of 1 percent of the U.S. corn and soybean crops were grown under certified organic farming systems. USDA has not estimated the amount of acreage devoted to organic production systems that has not been certified, although data from California suggest that a large number of farmers, mostly those with small operations, produce and market organic goods without third-party certification.

Key production practices followed by certified organic producers include: abstaining from use of certain crop chemicals and animal drugs; ecologically based pest and nutrient management; segregation of organic fields and animals from nonorganic fields and animals; following an organic system plan with multiple goals, including sustainability; and recordkeeping to document practices and progress toward the plan's goals. Specific elements of organic production vary, but organic systems generally share a core set of practices. For example, the certification standards of virtually all State and private U.S. certifying agents prohibit the use of synthetic chemical pesticides or animal growth hormones. And most certification standards include a 3-year ban on the use of prohibited substances on cropland before production can be certified as organic.

On the other hand, certification standards for organic livestock production have been more variable for pasture, feed, and other practices. Until 1999, the USDA Food Safety and Inspection Service (FSIS) withheld approval for the use of organic labels on meat and poultry products pending the outcome of this rulemaking. However, the Secretary announced a change in policy in January 1999. Meat and poultry products may be labeled "certified organic by (name of the certifying agent)" if handlers obtain prior label approval from FSIS and the claim meets certain basic criteria. Organic labels have been permitted on eggs and dairy products--which are regulated by the Food and Drug Administration (FDA)--throughout the 1990's, but most certifiers have not yet offered certification services for these products.

We provide a summary of the New Hampshire organic program to highlight the similarities in the core set of practices. It is important to note that this discussion is

intended to highlight the conceptual similarities between State and private programs and is not intended to suggest that these programs are identical to each other or to the NOP. Production standards include: a written rotation plan; tillage systems that incorporate organic matter wastes into the topsoil; compliance with limits on the sources of manure and the timing of its application; prohibitions on the use of certain substances (e.g., sewage sludge, synthetic sources of nitrates, synthetic growth regulators, and anhydrous ammonia); a list of accepted and prohibited weed and pest control practices; segregation of organic and nonorganic production; recordkeeping regarding fertilization, cropping, and pest management histories; separate sales records for organic and nonorganic production; and records of all laboratory analyses. Residue testing may be required if USDA believes that the products or soil used for producing certified products may have become contaminated with prohibited substances.

The New Hampshire program requires growers to pay a $100 annual inspection fee and to provide a written description of their farm operation, including the size of the farm; a field map; a 3-year history of crop production, pest control, and fertilizer use; a crop rotation and a soil management plan; and a description of postharvest storage and handling methods. Applicants for certification must also agree to comply with regulations controlling the use of the New Hampshire certified organic logo.

Organic Food Handling

In addition to growers, who actually produce and harvest products to be marketed as organic, there are handlers who transform and resell the organic products. Not all certifiers have standards for handling organic products. And some certifiers have standards for parts of the food marketing system, such as restaurants, which are not explicitly covered by the OFPA nor encompassed by this final regulation.

Definitions of processing and handling differ across certifying agents and State laws. Some States, such as Washington, distinguish between a processor and a handler, specifying 21 actions which constitute processing and defining a handler as anyone who sells, distributes, or packs organic products. Other States do not distinguish between food processors and handlers. Under the final rule, the term, "handler," includes processors but not final retailers of agricultural products that do not process agricultural products.

Organic Product Marketing

The two largest marketing outlets for organically produced goods are natural foods stores and direct markets--which include farmers markets, roadside stands, and 'community supported agriculture' arrangements--according to industry data. USDA does not have official national level statistics on organic retail sales, but an industry trade publication, the Natural Foods Merchandiser (NFM), reported estimates of total retail sales of organic foods for years 1990-96 and continues to report estimates of natural product stores sales (table 1). The last NFM estimate of total organic sales through all marketing outlets was $3.5 billion in 1996 ($3.7 billion in 1999 dollars), less than one percent of total food expenditures by families and individuals that year.

Natural foods stores increased in size and presence in the United States during the 1990's--many are now the size of conventional supermarkets--and about two-thirds of estimated total organic sales during the 1990's were through this outlet

(table 1). Natural foods supermarkets, which are similar to conventional in the breadth of supermarket offerings and amount of total sales, accounted for close to 1 percent of total supermarket sales by 1997 (Kaufman 1998). Organic product sales through the natural foods stores outlet, alone, in 1999 were estimated at $4 billion, and sales through this outlet increased about 20-25 percent annually through the 1990's.

Direct-to-consumer market sales ranged from $270 to $390 million during the early 1990's, accounting for between 17 and 22 percent of total organic sales during this period, according to NFM estimates (table 1). Conventional food stores (mass markets) accounted for 6-7 percent of total sales during this period, and export sales accounted for 3-8 percent of the total. A draft report on the U.S. organic export market, partly funded by USDA, indicates that current U.S. export sales are under 5 percent of total organic product sales (Fuchshofen and Fuchshofen 2000).

The United States is both an importer and an exporter of organic foods. The United States does not restrict imports of organic foods. In fact, U.S. Customs accounts do not distinguish between organic and conventional products. The largest markets for organic foods outside the United States are in Europe, Japan, and Canada. There is increasing pressure, particularly in Europe and Japan, for U.S. exports to demonstrate that they meet a national standard rather than a variety of private and State standards. France, for example, has indicated to USDA that it prefers to negotiate with a single national organic program, rather than the dozens of different State and private certifying programs currently operating in the U.S.

The EU is the largest market for organic food outside the United States. The organic food market in the EU was estimated to be worth $5.2 billion in 1997 (International Trade Centre UNCTAD/WTO 1999). The largest organic retail sales markets in the EU in 1997 were Germany ($1.8 billion), France ($720 million), and Italy ($750 million). Large organic markets outside the EU include Canada and Australia, with approximately $60 million and $68 million, respectively, in organic retail sales in 1997 (Lohr 1998). Import share of the organic food market in Europe ranged from 10 percent in France to 70 percent in the United Kingdom, was 80 percent in Canada, and varied from 0 to 13 percent in various Australian States.

Japan is another important market for U.S. organic products. Currently, Japan has voluntary labeling guidelines for 6 categories of nonconventional agricultural products: organic, transitional organic, no pesticide, reduced pesticide, no chemical fertilizer, and reduced chemical fertilizer. Total sales, including foods marketed as "no chemical" and "reduced chemical," are forecast to jump 15 percent in 1999 to almost $3 billion. Imports of organic agricultural products were valued at $90 million in 1998. Given Japan's limited agricultural acreage, imports will likely provide an increasingly significant share of Japan's organic food supply (USDA FAS 1999a).

Recently, these markets have adopted or are considering adoption of procedures that may impede the importing of organic food. The EU regulations establishing the basis for equivalency in organic production among EU members and for imports from outside the EU were adopted in 1991 (Council Regulation 2092/91). The EU regulations only allow imports from non-EU countries whose national standards have been recognized as equivalent to the EU standards (Commission Regulation 94/92).

The Ministry of Agriculture, Forestry, and Fisheries (MAFF) in Japan recently

announced proposed standards and third-party certification requirements. Under Japan's proposed standards, certifying agents from countries without national organic standards administered by a federal government will face additional financial and administrative costs.

Requirements of the Final Rule

The final rule follows the structure established in the OFPA. By adopting this alternative, the Department is following the legislative direction in the OFPA. All products marketed as organic will have to be produced and handled as provided in the OFPA and these regulations. Compared to current organic practices, the final rule sets a somewhat more stringent system of requirements.

Among many alternatives, two alternatives to the final rule are discussed in this section: continuation of the status quo and use of industry-developed standards. Given the statutory responsibility, USDA is implementing the requirements of the OFPA. However, under the status quo alternative, there would be no national standard or national program of accreditation and certification. No Federal funds would be used, there would be no transfer from Federal taxpayers at large to organic market participants, and there would be no Federal regulatory barriers to entry into organic production and handling. However, growers and handlers would still not have level access, under uniform standards, to the domestic market, and there may be significant enforcement gaps at the State level. International pressure for additional verification would continue to build and would be likely to lead to an increased use of public and private verification and accreditation services, which are provided on a user-fee basis with full cost recovery. Establishing reciprocity between certifying agents in the domestic organic market would continue to be costly and may stifle growth in trade of organic products, although the magnitude of these costs and their effects on growth are unknown. Without further analysis that includes quantification and monetization of benefits and costs, it is not clear whether the net benefits associated with this alternative are greater or less than those associated with the final rule.

Under the other industry-developed standards alternative, USDA could eliminate the costs associated with establishing reciprocity in the domestic market and establish equivalency for access to international markets, but it would be difficult for industry to develop consensus standards. For example, the industry-developed standards recently proposed by the Organic Trade Association were developed with significant industry input but with little public comment. In contrast, several hundred thousand comments have been submitted in the course of the USDA rulemaking process. In addition, the OFPA mandated an advisory role for a 15-member National Organic Standards Board (NOSB), which has wide representation from the organic community and includes members who are farmers, handlers, retailers, environmentalists, consumers, scientists, and certifiers. The NOSB has assisted in developing the standards promulgated in this final rule and will play an advisory role for the NOP even after the final rule is in place. Without further analysis that includes quantification and monetization of benefits and costs, it is not clear whether the net benefits associated with this alternative are greater or less than those associated with the final rule.

USDA's final rule will be implemented by the NOP staff in the Agricultural Marketing Service (AMS). Major features of the NOP include:

Accreditation and Certification

The rule specifies the accreditation and certification process. Persons providing certification services for organic production and handling must be accredited by USDA through the NOP. Applicants for accreditation must document their abilities to certify according to the national standards and to oversee their client's compliance with the requirements of the OFPA and NOP regulations. Producers and handlers of organic products must be certified by an accredited certifying agent. Producers and handlers are required to document their organic plans and procedures to ensure compliance with the OFPA.

All certifying agents would have to be accredited, and certification by producers and handlers would be mandatory. The exceptions are: (1) growers and handlers with gross organic sales of $5,000 or less would be exempt from certification, and (2) a handling operation may be exempt or excluded from certification according to provisions described in the rule's subpart B, Applicability.

USDA will charge applicants for accreditation and accreditation renewal (required every 5 years) a $500 fee at the time of application. USDA will also charge applicants for costs over $500 for site evaluation of the applicant's business. The applicant would be charged for travel costs, per diem expenses, and any miscellaneous costs incurred with a site evaluation. USDA will also charge accredited certifiers at an hourly rate to review their annual reports.

Producers and handlers will not pay certification fees to USDA. Certification fees will be established by the accredited certifying agents. USDA will not set fees. The rule requires certifying agents to submit a copy of their fee schedules to USDA, post their fees, and provide applicants estimates of the costs for initial certification and for renewal of certification.

Production and Handling

The rule establishes standards for organic production of crops and livestock and handling of organic products. These standards were developed from specific requirements in the OFPA, recommendations from the NOSB, review of existing organic industry practices and standards, public comments received on the 1997 proposal and subsequent issue papers, public meetings, and comments received on the 2000 proposal.

The final rule establishes a number of requirements for producers and handlers of organic food. These requirements will affect farming operations, packaging operations, processing operations and retailers. Some of the major provisions are: (1) land requirements, (2) crop nutrient requirements, (3) crop rotation requirements, (4) pest management requirements, (5) livestock management requirements, (6) processing and handling requirements, and (7) commingling requirements.

National List

The National List lists allowed synthetic substances and prohibited nonsynthetic substances that may or may not be used in organic production and handling operations. The list identifies those synthetic substances, which would otherwise be prohibited, that may be used in organic production based on the recommendations of the NOSB. Only those synthetic substances on the National

List may be used. The National List also identifies those natural substances that may not be used in organic production, as determined by the Secretary based on the NOSB recommendations.

Testing

When certifying agents have reason to believe organic products contain a prohibited substance, they may conduct residue tests.

Labeling

The rule also states how organic products may be labeled and permitted uses of the USDA organic seal. In addition to the USDA seal and the certifying agent's seal, information on organic food content may be displayed. Small businesses that are certified may use the USDA seal.

Recordkeeping

The rule requires certifying agents, producers, and handlers to keep certain records. Certifying agents are required to file periodic reports with USDA. Producers and handlers are required to notify and submit reports to their certifying agent. While recordkeeping is a standard practice in conventional and organic farming, the final rule adds recordkeeping and reporting requirements that do not exist for growers and handlers operating without certification. Similarly, certifying agents would face additional recordkeeping and reporting requirements, particularly those certifying agents operating without external accreditation. The rule permits certifying agent logos and requires the name of the certifying agent on processed organic foods.

Enforcement

Organic operations that falsely sell or label a product as organic will be subject to civil penalties of up to $10,000 per violation. The provisions of the final regulation apply to all persons who sell, label, or represent their agricultural product as organic, including operations that aren't certified, and the civil penalties of up to $10,000 apply to these operations as well. Certifying agents, State organic programs' governing State officials, and USDA will receive complaints alleging violations of the Act or these regulations. In States where there is no State organic program, USDA will investigate allegations of violations of the Act.

Number of Affected Parties and Projections

In assessing the impacts of the rule, we have attempted to determine the number of certifying agents, private and State, that are currently operating and considered the factors likely to affect the number of certifying agents after the rule is implemented. We have attempted to determine the number of currently operating producers and handlers that would be affected. And, we have considered the factors that might affect the number of producers and handlers after the program has been implemented.

For the analysis, USDA assumes the following:

1. Forty-nine domestic certifying agents and ten foreign certifying agents will be

affected by the regulation.

2. Approximately 13,650 certified and noncertified organic producers will be affected by the regulation. With the assumed growth rate of 14 percent for certified organic producers and approximately 8 percent for noncertified organic producers, the number of organic producers will grow to 17,150 in 2002.

3. Approximately 1,600 handlers of organic food will be affected by the regulation. This number will grow to 2,250 by 2002.

Certifying Entities

We place the number of certifying agents currently operating at 49, including 13 State programs. The number of certifying agents has remained fairly stable, between 40 and 50, for some years, with entries and exits tending to offset each other. For purposes of estimating the paperwork burden described elsewhere, we assume no growth in the number of domestic certifying agents but project 10 foreign certifying agents will seek and receive USDA accreditation in the first 3 years of the program.Organic Producers

While some USDA data on the number of certified organic producers in the United States exist, no national data have been collected on the number of producers that produce and market organic goods without third-party certification. Organic farming was not distinguished from conventional agriculture in the last Census of Agriculture in 1997. USDA and Organic Farming Research Foundation (OFRF) data were used in the Regulatory Impact Analysis (RIA) of the March 2000 proposed rule to help estimate the number of certified U.S. growers affected by the regulation. California Department of Food and Agriculture (CDFA) data were used to help estimate the number of uncertified U.S. growers affected by the regulation. All three of these data sources have updated their estimates of the number of certified and uncertified organic producers since the RIA of the proposed rule was published earlier this year. However, the updated numbers do not indicate trends that would fundamentally alter the assumptions used in the RIA of the proposed rule to calculate the number of affected growers, and the estimates made for the March 2000 RIA are retained in this assessment of the final rule.

USDA datum indicates the average annual growth rate in the number of U.S. certified organic growers between 1991 and 1994 was about 14 percent (Dunn 1995b). In April 2000, USDA's Economic Research Service estimated that 5,021 certified organic growers operated 1.347 million acres of U.S. farmland in 1997, indicating that the increase in acreage had outpaced the increase in growers, and showing only an 8 percent annual growth rate in growers between 1994 and 1997 (Greene, 2000b). However, USDA's study indicated that the pace of growth in certified acreage had quickened considerably since 1997, with the amount of certified acreage increasing 38 to 150 percent between 1997 and 1999 by several large certifying organizations across the U.S. And a nonprofit organic research foundation, OFRF, estimates that the number of certified organic producers in the certification organizations that they track--the ones that will release data to them--grew over 20 percent annually between 1997 and 1999, from 4,638 to 6,600 (OFRF 2000). Also, one certifier, Washington State, responded to our request for data on the growth rate, indicating that the number of certified organic producers has increased an average of 17 percent per year between 1994 and 1999 in that

State and noting that certification became mandatory by State law in 1993.

In the March 2000 RIA, USDA estimated that the number of certified U.S. organic producers potentially affected by this legislation is approximately 9,350 in 2000 and will be approximately12,150 in 2002, based on a straight line projection of the 14-percent annual growth rate trend shown by USDA data for 1991-1994. The period, 2000-2002, was chosen for analysis because it encompasses both the period of final rulemaking and the 18-month implementation period. Congress passed the OFPA in 1990, and the 14-percent growth rate in certified growers during the 1991-1994 period reflects their expectation that national organic regulations were forthcoming. Since the recent estimates of industry growth during the 1990's are uneven and the actual growth rate in the number of growers who will become certified after this legislation is implemented is uncertain, the March 2000 estimates are retained in this assessment of the final rule.

The March 2000 RIA also estimated the number of producers who are practicing organic agriculture but who are currently uncertified that would be affected by the rule. In California, where organic growers are required to register with the State but not to be certified, a large proportion of growers are uncertified. The most recent State data, for the 1997/98 crop year, indicate that 1,526 growers registered as organic, but only 41 percent of them obtained third-party certification (Klonsky et al., 2000). While only a small percentage of growers in the lowest organic sales category (0-$10,000), where the largest number of growers were clustered, obtained certification, three-quarters or more of the growers earning at least $50,000 obtained certification, and all of the growers in the highest sales class were certified. USDA did not use the California ratios of certified to uncertified growers in the March 2000 RIA to estimate the number of uncertified growers because the farming structure of California may not be representative of the Nation. For example, California sells at least three times more specialty crops that any other State in the United States--and has an unusual registration program that many growers use instead of certification.

USDA made two assumptions about uncertified production for the March 2000 estimate. The first assumption was that the rate of growth in uncertified production is less than the rate for certified farms because certification has value and organic producers would be expected to take advantage of the marketing advantages of certification. This assumption is consistent with California data that showed an increase in the percent of organic farmers obtaining certification between 1996/97 and 1997/98 in virtually every sales class (Klonsky et al. 2000). Second, the emergence of State certification programs with lower certification fees than private certification entities may have encouraged more organic producers to be certified. Based on these assumptions, USDA assumed that the number of uncertified organic producers is about 4,300 in 2000 and will be about 5,000 in 2002, making the total number of farms potentially affected by the rule about 13,650 in 2000 and 17,150 in 2002.

Organic Handlers

Little information exists on the number of organic product handlers, such as organic soup manufacturers, organic food packaging operations, organic food wholesalers, and feed millers. USDA has estimated that there were 600 entities in this category in 1994 (Dunn 1995b). AMS estimated that the growth rate was 11 percent from 1990 through 1994 (Dunn 1995b). More recent data from CDFA registration records suggest a growth rate of about 28 percent (California Department of Health Services 1999). For projection purposes, we use a growth

rate of 20 percent and estimate there are about 1,600 in 2000 and there will be about 2,250 handlers in 2002. Reasons for growth include the general increase in organic production and growth in the market for processed organic foods, including multiingredient products. Again, these projections are based on limited data from the early 1990's, and growth may have slowed or increased. These estimates of organic product handlers are slightly higher that the estimates made in the March 2000 RIA because they include about 100 feed millers that were not included in the earlier calculation.

Retail Food Establishments

Retailers of organic food are grocery stores, bakeries and other establishments that process or prepare raw and ready-to-eat food. Most are not currently subject to either voluntary practices or mandatory standards of the organic industry. Although they are excluded from the certification requirements under the final rule, they are subject to other processing, handling, and other production related requirements of the final rule. Some of the grocery stores in the United States, particularly the natural foods stores, sell processed or prepared organic foods and will be affected by the these requirements. USDA does not have an estimate of the number of entities affected.Foreign Entities

In addition to domestic certifying agents, foreign certifying agents may also apply for accreditation under the NOP. At this time, we have no information regarding the number of foreign certifying agents that may seek USDA accreditation. Foreign applicants will face the same base costs for accreditation as domestic applicants but the overall levels of cost are expected to be higher due to the generally higher costs of foreign travel and per diem expenses for site evaluation and miscellaneous costs such as for translation of documents. For purposes of estimating the paperwork burden described elsewhere, we assume 10 foreign certifying agents will seek and obtain accreditation during the first 3 years of the program.

Benefits of the Final Rule

The benefits of implementing national uniform standards of production and certification include: (1) providing a common set of definitions on organic attributes and standardizing the manner in which the product information is presented, which may reduce the cost associated with enforcement actions in consumer fraud cases; (2) reduced administrative costs; and (3) improved access to organic markets. Not all benefits that may arise from the rule are quantifiable. Where economic data are available, they may relate to costs and are generally not adequate to quantify economic benefits. The regulatory changes in the final rule are not expected to reduce the benefits from those described under the March 2000 proposed rule.

Information

Potential benefits to consumers as a result of the final rule include providing a common set of definitions on organic attributes and standardizing the manner in which the product information is presented. This standardization may reduce the cost associated with enforcement actions in consumer fraud cases.

Organic products cannot be distinguished from conventionally produced products by sight inspection, and consumers rely on verification methods such as

certification to ensure that organic claims are true. Self-policing by certifiers of growers and handlers that are certified has been difficult because some certifiers have been under pressure to use weak standards and lax enforcement procedures in order to keep their producer and processor clients from taking their business to other certifiers (Scowcroft 1998).

Anecdotal evidence suggests that consumer fraud involving organic food does occur, and several States successfully pursued civil and criminal prosecution of these cases during the 1990's. The Attorney General of Minnesota successfully prosecuted felony charges in 1997 against the president of Glacial Ridge Foods, a wholesale supplier of beans and grains, for repackaging conventionally produced product and selling approximately $700,000 worth labeled as certified organic (Mergentime 1997). The San Diego City Attorney's office successfully prosecuted felony charges against Petrou Foods, Inc., an organic oil and vinegar distributor, for misbranding conventional product, based on an investigation by the California Department of Health Services (Scott 1997). Also the California Department of Food and Agriculture conducted spot checks of 51 uncertified organic growers during the mid-1990's, based on complaints, and found 32 violations of California's organic standards (Farmers Market Outlook). However, only about half of the States have any organic legislation, and few of those States have laws with enough teeth to permit prosecution of organic fraud. In States without similar laws, the costs associated with remedies via the tort system may be high. The NOP established in this final rule is expected to fill in important State and regional gaps in enforcement in organic fraud cases.

The USDA organic seal will also provide consumers a quick tool to verify that goods offered for sale as organic are in fact organic.

Reduced Administrative Costs

The rule addresses the problem of existing certifying agents using different standards and not granting reciprocity to other certifying agents. By accrediting certifying agents, the rule establishes the requirements and enforcement mechanisms that would reduce inconsistent certification services and lack of reciprocity between certifying agents. In the current system, the certifying agent of a final product is not required to recognize the certification of an intermediate product. Both primary farmers and food handlers may face a risk of being unable to sell a certified organic product when more than one certifying agent is involved. By imposing a uniform standard of certification and production, the costs associated with establishing reciprocity between certifying agents will be eliminated, and the market dampening effects that these costs impose will be eliminated. Industry-wide training costs may also decrease. USDA's uniform standards of production and certification should enable organic inspectors to move more easily from one certifying agent to another than under the current system.

Domestic and International Markets

The final rule is expected to improve access to domestic and foreign markets for organically produced goods. The current patchwork of differing State certification requirements and variable State and private standards has given producers and handlers uneven access to the domestic organic market and to the price premiums associated with this market. Livestock producers, in particular, may have limited their organic production because they lacked access to a State or private organic livestock certification program or were uncertain about the

standards that would be implemented under the NOP.

The final rule could also improve access to EU and other foreign markets for U.S. organic products. For example, the EU may determine that the NOP is acceptable vis-a-vis EU regulation 2092/91. Article 11 of EU Reg. 2092/91 establishes the conditions under which organic products may be imported from third countries and addresses the framework for equivalency. The NOP is a national program that should be acceptable to the EU and other governments. Foreign acceptance of the U.S. national standard would reduce costs of negotiating and documenting shipment by shipment. Reducing these transaction costs may reduce entry costs for U.S. producers to foreign organic markets. These benefits would not accrue until after negotiations for an equivalency agreement have been held and completed successfully, which could be a lengthy process.

An estimated 5 percent of total U.S. sales are from exports. Currently, despite restricted access to the European market, the United States is the most important non-EU supplier of organic products to EU countries (Foreign Agriculture Service (FAS), 1995). Import authorizations have been granted for a number of raw and processed commodities, including sunflowers, buckwheat, beans, sugar, and apples. Demand is strong throughout the European market, and the organic market share was 1-2 percent of total food sales in 1997 (Collins 1999). Medium-term growth rate forecasts range from 5-10 percent for Germany to 30-40 percent for Denmark, and is 20-30 percent in most of the EU countries, according to the International Trade Centre UNCTAD/WTO. However, most analysts are basing their projected future growth rates on straight-line extrapolations of current sales and growth rates without understanding the underlying market mechanisms and price elasticities (Lohr 1998).

Costs of the Final Rule

The costs of the regulation are the direct costs of complying with the specific standards. It is important to note that while some costs associated with accreditation and certification are quantified, costs stemming from other provisions of the final regulations are not. In addition, this is a short-run analysis. The analysis examines the costs that may be incurred through 2002. It is not possible at this time to conduct a longer run analysis because we do not know enough about the fundamental supply and demand relationships to make economically sound long-run projections.

Accreditation Costs

USDA has identified 36 private certifying agents and 13 State programs providing certification in the United States. These 49 entities are considered likely applicants during the first 18 months during which USDA will not charge application fees or hourly fees for accreditation. An unknown number of new entrants to the certifying business may also apply. However, over the last 10 years, the number of certifying agents does not appear to have grown significantly, with the net effect of entries and exits maintaining a population of certifying agents at about 40-50.

The final rule allows USDA to collect fees from certifying agents for USDA accreditation. The first proposal would have permitted USDA to collect fees from producers and handlers as well, but USDA decided that it would be administratively simpler to collect fees only from certifiers and would enable State

programs that want to keep client costs low to be able to do so.

Applicants for accreditation will be required to submit a nonrefundable fee of $500 at the time of application, which will be applied to the applicant's fees for service account. This means that the $500 fee paid at the time of application is credited against any subsequent costs of accreditation arising from the initial review and the site evaluation. The $500 fee is the direct cost to applicants who are denied accreditation based on the initial review of the information submitted with their application. Charges for the site evaluation visit will cover travel costs from the duty station of USDA employees, per diem expenses for USDA employees performing the site evaluation, an hourly charge (per each employee) for services during normal working hours (higher hourly rates will be charged for overtime and for work on holidays), and other costs associated with providing service to the applicant or certifying agent.

At present, the base per diem for places in the United States is $85 ($55 for lodging and $30 for meals and incidental expenses). Per diem rates are higher than $85 in most large cities and urbanized places, but over half of the current U.S. certifiers are located in places that have an $85 per diem rate, and that is the rate used to calculate average certifier expenses in table 3. A review of domestic travel by USDA staff during fiscal year 1999 indicates transportation costs ranging from $500 to $600 per person. Miscellaneous costs are estimated to add another $50 to each site visit.

The hourly rate that USDA anticipates charging for accreditation is the rate that USDA currently charges for services under the Quality Systems Certification Program (QSCP). Our preliminary estimate that this rate will be no more than $95 per hour is presented to give the public some indication of the rate that will be charged following the 18-month transition period. QSCP is an audit-based program administered by AMS, which provides meat producers, handlers (packers and processors), and other businesses in the livestock and meat trade with the opportunity to have special processes or documented quality management systems verified. The procedures for accreditation evaluation are similar to those used to certify other types of product or system certification programs under QSCP.

Accreditation will include verification of adherence to ISO Guide 65 and the regulations. Although much of the site evaluation for accreditation will involve comparisons against ISO Guide 65, additional hours will be required because USDA will be evaluating additional aspects of the applicant's operation to determine if the applicant is qualified to perform as an accredited agent for the NOP. Based on experience with the QSCP and more limited experience performing audits verifying that certifying agents meet ISO Guide 65, we project that a site evaluation visit for small applicants with a simple business structure will require 3 days of review, and for those large applicants with more complex business structure will require 5 days of review.

USDA will use two reviewers for each site evaluation visit during the 18-month implementation period, as well as for new applicants after that period. One reviewer will come from the QSCP audit staff and will be familiar with the ISO Guide 65 verification; the other reviewer will come from the NOP staff and will be familiar with requirements of the organic program. The two will conduct the site evaluation jointly. Two reviewers will also be needed for the site evaluation visits for the accreditation renewals, which will take place every 5 years. In the proposed rule, USDA had projected that only one reviewer would be needed for site

evaluations and renewals that took place after the 18-month implementation period but has changed that projection based on additional experience with the ISO Guide 65 program.

During the 18-month implementation period, applicants will be charged for travel and per diem costs for two persons and for miscellaneous expenses but will not be charged application fees or hourly fees. The estimated expenditures for these initial accreditations is $1,560-$2,100, with $510-$850 for per diem expenses, $1,000-$1,200 for travel expenses, and $50 for miscellaneous expenses (table 3). The cost of initial site evaluation visits will vary with the cost of travel from the USDA reviewer's duty station to the applicant's place of business. In general, more distant and remote locations will involve higher travel costs.

USDA estimates the costs of a site evaluation visit after the transition period may average $6,120-$9,700, depending on the characteristics of the applicant, including $4,500-$7,600 for the hourly site evaluation charges that are not billed to the certifier during the first 18 months (table 3). USDA has received appropriated funds to pay for the hourly site evaluation charges only during the first 18 months of the program.

Currently, few private certifying agents are operating with third-party accreditation. Fetter (1999) reports that in a sample of 18 certification programs, four programs were accredited, and one had accreditation pending. All of these were large, private certifying agents. Those certifying agents currently accredited by third parties will likely pay less for USDA accreditation. In its first proposal, USDA stated at FR 62:65860, "We are aware that certifiers currently may pay in excess of $15,000 for accreditation by a private organization." Commenters thought this figure was too high. One commenter, which operates the International Federation of Organic Agriculture Movements (IFOAM) Accreditation Programme under license to IFOAM, stated, "It is possible that the largest programme operating a chapter system with activities in many countries (which is included in their IFOAM evaluation) paid this amount in their first year. On the other hand the average cost to a medium sized certifier works out at around $3000 to $4000 per year." Another commenter stated, "At the present time IFOAM accreditation costs less than $10,000/year for the largest certifier and $3-5,000 for smaller certifiers."

The 18-month NOP implementation period affects the distribution of program costs between the organic industry and the taxpayer. Some of the costs of accreditation would be absorbed by the NOP operation budget appropriated by Congress. In effect, the taxpayers are subsidizing the organic industry. Without this subsidy, the total cost of accreditation would approach $1 million.

The direct accreditation costs to an estimated 59 certifying agents (including all 49 current U.S. certifiers and an estimated 10 foreign certifiers) during the first 18 months following the final rule, are approximately $92,000 to $124,000. This figure is derived from the per-firm costs in table 3. In addition, USDA will use appropriated funds to cover approximately $270,000-$448,000 in hourly charges for site evaluation. USDA will also use appropriated funds to cover the costs of producing and publishing an accreditation handbook in several languages, translating USDA reports to foreign clients, and developing and funding a peer review panel to evaluate NOP's adherence to its accreditation procedures. And if more than the estimated 59 certifiers apply for accreditation during the first 18 months of the program, USDA will use appropriated funds to cover additional hourly charges for site evaluation.

Private certifying agents and State programs that do not mirror the regulation may incur additional costs to change their programs to adopt the national standards. The discussion on the effect of the regulation on existing State programs is in "State Program Costs." The cost associated with changing existing private certifying programs is not quantified.

Also, certifying agents who have been operating without third party accreditation will face new costs. For certifying agents who currently obtain third-party accreditation, the direct costs of USDA accreditation, which are only incurred every 5 years, may be lower on an annual basis compared to the direct costs for third-party certification of $3,000-$5,000 per year indicated by the commenters. The direct costs for certifying agents obtaining accreditation during the first 18 months, when USDA will not impose an application fee or hourly charges, will be limited to travel, per diem, and miscellaneous expenses.

A national accreditation program may shrink the market for a third-party accreditation. Certifying agents will have little incentive to maintain or seek a second accreditation by a private organization unless that accreditation sufficiently enhances the market value of the certifying agent's services. Thus, the market will determine whether other accrediting entities continue to have a U.S. market for their services.

Training programs are currently offered by the Independent Organic Inspectors Association (IOIA), an organization of approximately 165 organic certification inspectors, and by some of the larger certifying agents (IOIA). Costs to existing certifying agents to provide additional training to other staff are difficult to measure in the absence of information on current staff skill levels or the existence of formal training other than inspector training. Some agencies rely on volunteer staff who may have had no formal training, but the extent of this practice is unknown. AMS intends to offer assistance to certifying agents, producers, and handlers by providing accreditation training for certification agents and other printed material that would enable participants to better understand the regulations. In addition, AMS intends to continue open and frequent communication with certifying agents and inspectors to provide as much information as possible to aid them in fulfilling the requirements of the regulations.

The OFPA requires that private certifying agents furnish reasonable security for the purpose of protecting the rights of participants in the organic certification program. It is expected that there will be costs to certifying agents from these requirements.

Implementation of the final rule will also impose a less tangible cost on some certifiers. Some private certifiers have advertised their program and logo as representing higher standards than other programs. The brand value associated with the logos of these certifiers will be lost when uniform standards are implemented as part of the national program. However, certifiers will still be able to distinguish themselves to clients based on the quality of their services and other characteristics.

A key change was made in the final rule, based on comments to the March 2000 proposal, to make the standard used by certifiers to determine maximum allowable pesticide residues (the level above which a product could not be called organic) consistent with the current industry standard and with NOSB recommendations. In the final rule, the standard will be set at 5 percent of the pesticide residue tolerances calculated by the Environmental Protection Agency (EPA). This change

could conceptually reduce costs, but the magnitude of this reduction is uncertain.Certification Costs

Under the final rule, USDA will not impose any direct fees on producers and handlers. Certifying agents will establish a fee schedule for their certification services that will be filed with the Secretary. Certifying agents will provide all persons inquiring about the application process with a copy of their fees. The certifying agent will provide each applicant with an estimate of the total cost of certification and an estimate of the annual costs of updating the certification. Under the proposed rule, certifiers could charge a maximum of $250 at the time of application, but under the final rule, certifiers are not limited in the amount of certification fees that they may charge at the time of application.

Some States charge minimal fees for certification by subsidizing operating costs from general revenues. The majority of certifying agents structure their fee schedules on a sliding scale based on a measure of size, usually represented by the client's gross sales of organic products but sometimes based on the acres operated (Fetter 1999 and Graf and Lohr 1999). Some certifying agents charge an hourly rate for inspection and audit services.

Graf and Lohr have applied fee schedules provided by ten certifying agents to four hypothetical farms, small, medium, large, and a super farm. Tables 2A and 2B summarizes the fees that Graf and Lohr found by applying schedules of each certifying agent to hypothetical farms. Total first-year costs and subsequent-year (renewal) costs for certification are shown. The average cost for each size class should be interpreted with care because it is not weighted by the number of clients certified. In their study, the Texas Department of Agriculture program is the low-cost certifying agent for all-size operations. The high-cost certifying agent differs across farm sizes. None of these certification programs mentions costs for residue testing, which the NOP will require in the form of preharvest testing when there is reason to believe that agricultural products have come into contact with prohibited substances. Preharvest testing is expected to be infrequent. Some certifying agents currently require soil nutrient testing and water quality testing. The estimated total initial costs for a producer or handler to become certified are presented in table 3.

We have not extended the average costs reported in Tables 2A and 2B to aggregate certification costs for all organic farms because the number of organic farms is not known with precision, nor is their geographic location, and there are no data to distribute the population of organic farms across size classes. The data from California suggest that a large number of small farmers produce and market organic goods without third-party certification, but those data may not be representative of the national trend. Although many of the smallest farms would qualify for the small farm exemption from certification, if consumers accept the labeling practices required by this final rule, small farmers may obtain certification to stay in the organic market, which may involve some cost.

In response to comments, the March 2000 proposal was changed to provide that if a conflict of interest is identified within 12 months of certification, the certifying agent must reconsider the application and may reinspect the operation if necessary. Additionally, if a conflict of interest is identified, the certifying agent must refer the operation to a different accredited certifying agent. These provisions would likely increase costs to certifiers; however, the magnitude of this increase is unknown.

Production and Handling Costs

Producers and handlers currently active in the organic industry may bear costs under the national standards. We believe that while most provisions of the program mirror current industry practices, there are some differences. In addition to the cost associated with becoming familiar with the national program, any adjustments stemming from these differences will result in costs. These costs were qualitatively discussed in the March 2000 RIA for major provisions of the rule and are described below. The March 2000 proposal adhered closely to recommendations from the NOSB and largely reflected current industry standards. Marginal changes have been made in the final rule in response to comments on the March 2000 proposal. These changes have been made in concert with NOSB recommendations and, in general, have been made to clarify or add flexibility to producer and handler provisions or to make them better reflect current industry standards.

Producers

Producers of organic food will face numerous provisions that will regulate their production methods. As indicated in the Baseline section, many of the requirements are currently followed by certified organic farmers. Farming operations that are not certified but are registered with a State government, such as California, receive copies of the State laws to which they must comply. The costs associated with adjusting to provisions in the final rule may be minimal for certified and State-registered growers but may be more substantial for noncertified organic producers that do not follow a specific set of guidelines or regulations. Some organic producers are neither certified nor registered and, therefore, may not practice the requirements in the final rule. Major provisions of the final rule--the withdrawal period required for land to be free of prohibited substances, National List, animal drug use, and residue tests--are discussed to illustrate costs; other provisions may also impose additional costs.

A 3-year withdrawal period, during which prohibited materials cannot be applied to a field to be certified as organic, is currently required by most private and State organic standards, and the final rule also specifies a 3-year period. The effect of this provision on the currently certified organic farming operations may be minimal, but the effect on farming operations that are neither certified nor registered may be significant. Farming operations that have completed a 3-year withdrawal period will not be affected by this requirement. To stay in the organic industry, those who have not completed the 3-year period must comply with this requirement. They may incur the cost of organic production for a significant length of time, yet not be allowed to sell their products as organic. Hence, some small organic operations may exit the industry.

The impact of the National List, which lists allowed synthetic substances and prohibited nonsynthetic substances that may or may not be used in organic production and handling operations, will be determined by how the national standards differ from current certification standards and from actual practice. Lists of approved synthetic materials, including soil amendments and pesticides, vary from one certification program to another, but a detailed analysis of specific differences in the various existing materials lists shows them to be overlapping in most cases with each other and with the National List. The degree of overlap should mitigate the costs for certified operations, but farming operations, particularly those that aren't certified, may need to make some adjustments to comply with the list. These adjustments will impose costs on these operations. The

magnitude of the costs resulting from these adjustments is not quantified.

Where livestock standards have been adopted by existing State programs and by private certifying agents, most prohibit the use of animal drugs except for the treatment of a specific disease condition, and use of animal drugs is generally prohibited within 90 days prior to the sale of milk or eggs as organic. Some State and private certifiers allow the use of animal drugs in animals for slaughter under certain conditions, while others prohibit the use of animal drugs. The standards in the final rule would prohibit the sale as organic of edible products derived from an animal treated with antibiotics or other unapproved substances. The standards may not differ from existing State or private standards in prohibiting the use of drugs on healthy animals. However, the effect of this provision may differ among certified and registered organic farms. The effect on the certified farming operations is unknown. We assume that this provision may have costs, but the magnitude of these costs is not quantified.

Additional costs may be imposed by several further changes to the March 2000 proposal. These changes involve the use of treated lumber, confinement requirements, and the commercial availability of ingredients in products labeled "organic."

The replacement of lumber treated with prohibited substances that comes into contact with soil, crops, or livestock under organic management with treated lumber is now specifically prohibited in organic systems. Since the use of lumber treated with prohibited substances for the purpose of preventing degradation is not a common practice in livestock production, this prohibition is not expected to increase producer costs substantially. The exact magnitude of any increase is uncertain and mainly dependent upon the number of producers seeking organic certification that currently use treated lumber in their operations and are planning to replace that lumber.

The confinement provisions in the March 2000 proposal have been slightly modified. Access to the outdoors is now an explicitly required element for all organically raised livestock. We expect this change to have a minor impact on overall producer costs, since we assume most producers raising organic livestock already provide access to the outdoors. Additionally, the term, "pasture," has been defined to emphasize that livestock producers must manage their land to provide nutritional benefit to grazing animals while maintaining or improving soil, water, and vegetative resources of the operation. To the extent producers desiring to raise organic livestock do not currently manage pasture in this manner, we expect livestock production costs to increase.

The organic plan now requires using organically produced minor agricultural ingredients unless not commercially available. This applies to the previously allowed 5-percent nonorganic agricultural and other ingredients in products labeled "organic." Handlers of organically produced minor ingredients, especially herbs and spices, are likely to benefit from this market incentive, while producers of nonorganic minor ingredients will likely be adversely affected. Producers will also realize a burden associated with providing the documentation of commercial availability for ingredients in the 5-percent component. Since the criteria to determine commercial availability will be developed after additional comments and information are considered, the magnitude of the cost and benefit implications from this standard are currently unquantifiable but will likely be largely dependent upon the stringency of the developed criteria.

Producers will also have administrative costs for reporting and recordkeeping, although producers who currently are active in the organic industry already perform most of these administrative functions, and additional costs to them would depend upon the extent to which their current practices are different from the requirements of the final rule. The annual reporting and recordkeeping burden on producers is estimated at 24 hours for certified producers and 1 hour of recordkeeping for small producers who choose to operate as exempt entities and is valued at $23 per hour.

Other provisions of the final rule, such as those on residue testing, livestock housing and feed, and health care practices, may vary enough from those followed by some growers that they may impose costs due to the variability in current housing, feed, and health care practices, but lacking information, we have not quantified these costs.

There were also several key changes made in the final rule, based on comments to the March 2000 proposal, that will add flexibility to producer standards. A specific type of production facility was required for composting manure in the proposal, and this provision has been modified to ensure that manure is adequately composted while allowing variation in the type of facility that is used. Also, the transition period of a dairy operation to make a whole-herd conversion to organic production has been reduced in order to make conversion affordable for a wider range of dairy farms, including smaller operations. Finally, the requirement that slaughter stock sold, labeled, or represented as organic be under continuous organic management from birth was changed to require continuous organic management from the last third of gestation. This change is also expected to provide possible cost savings and added flexibility for producers.

Handlers

Handlers of organic food are defined and regulated differently across different certifying agents and States. Due to this variability, handlers may incur some cost associated with complying with the requirements of the regulation. Several key changes were made in the final rule, based on comments to the March 2000 proposal, to make handler standards more consistent with current industry standards. The proposal prohibited the addition of sulfites to wine as required by OFPA. The statute has been changed since March, and the final rule will permit added sulfites in wine labeled "made with organic grapes," consistent with industry standards and NOSB recommendations.

Also, the March proposal required products labeled "made with organic ingredients" to have ingredients that were at least 50 percent organic, and this threshold has been raised to 70 percent in the final rule. Some certifiers set their thresholds at 50 percent, others at 70 percent, while others restrict labeling to individual ingredients only. The international industry standard outside the United States is set at 70 percent. The threshold is set at 70 percent in the final rule inresponese to comments received on the proposal and to be consistent with international standards, which will help ease export of U.S. organic product into those markets. Alternatively, to the extent handlers do not currently meet the 70-percent threshold to label products "made with organic ingredients," handlers may incur additional costs to reach the threshold or exit the industry. The magnitude of those effects is unknown.

In addition to the labeling requirement, a handler's current use of nonsynthetic and synthetic substances may change in response to the final rule. The March 2000

proposal provided for the use of any prohibited substance to prevent or control pests. This provision has been changed to first limit the use of nonsynthetic and synthetic substances to substances which are on the National List before allowing the use of any synthetic substance. To the extent to which handlers are now required to consider substances on the National List before using a prohibited substance and these substances on the National List are priced differently from the substance otherwise used, handlers may incur a change in production costs. This requirement may increase costs on handlers, but the magnitude of this increase is unknown.

In addition, the commercial availability requirement in the final rule, described in the producer costs section, may also create a burden on handlers to consistently apply the standard. To the extent to which sourcing organically produced ingredients in excess of 95 percent of the finished product is more expensive than sourcing nonorganically produced ingredients, handlers seeking the "organic" label for their products will incur additional costs. As previously described, the magnitude of the cost implications from this standard is currently unquantifiable but will likely be largely dependent upon the stringency of the standard that is developed.

Handlers will also have administrative costs for reporting and recordkeeping, although handlers who currently are active in the organic industry already perform most of these administrative functions, and additional costs to them would depend upon the extent to which their current practices are different from the requirements of the final rule. The annual reporting and recordkeeping burden on handlers is estimated at 63 hours for certified handlers and 1 hour of recordkeeping for small handlers who choose to operate as exempt entities and is valued at $23 per hour.

Retail Food Establishments

Most retailers are not currently subject to either voluntary practices or mandatory standards of the organic industry. Retailers that have organic processing operations, such as organic food delis and bakeries, are not required to be certified in the final rule. However, retailers will be subject to requirements such as prevention of contamination of organic products with prohibited substances, and commingling organic with nonorganic products. Obtaining certification and complying with these provisions will incur some cost.

Labeling Costs

Certified handlers will have to comply with requirements regarding the approved use of labels. In addition, any producers, handlers, and retailers who are not currently certified but who package organic products are also subject to the labeling requirements. The estimated annual cost for handlers to determine the composition of 20 products to be reported on labels is $1,647,000. This figure is based on an average of 1 hour per product per handler and an hourly cost of $27. Similarly, certified handlers will have to design their labels to comply with the regulation. This is expected to take 1 hour per label at $27 per hour for a compliance cost of $1,647,000. Total label costs for handlers are $3.3 million. Any changes to existing labels and new labels that need to conform to the regulation will incur a cost. The costs associated with these activities are not quantified. Hence, the lower bound on the labeling cost is approximately $4 million.

State Program Costs

The national program may impose additional costs on States by requiring changes in their existing programs. The rule encompasses most of the principles of existing State programs. However, there are also departures.

Where State standards are below Federal standards or where elements of the Federal standards are missing from a State program, these States would be required to make changes in their programs that they might otherwise not make. Where State programs have standards in addition to the Federal standards and they are not approved by the Secretary, States also would be required to make changes in their programs. States without organic standards or whose current standards either would conform to those of the national program or would be approved by the Secretary would not incur additional costs resulting from required changes. Currently, USDA cannot predict which States may be required to adjust their existing programs.

States that conduct certification activities will be charged for accreditation, something none of them pay for now. The cost associated with this provision is discussed in the Accreditation section.

Enforcement costs

Enforcement costs will fall upon USDA's NOP, States operating State organic programs, and on State and private certifying agents. Certifying agents will review clients' operations and will notify clients of deficiencies. Certifying agents can initiate suspension or revocation of certification. Certifying agents will be aware of these overhead costs, and we assume that they will establish fee schedules that will cover these costs. Actual costs to certifying agents for enforcement activities will depend on the number of clients, how well informed clients are of their obligations, and client conduct. State certifying agents will face the same obligations and types of costs as private certifying agents.

In States operating State organic programs (SOP), State enforcement costs are costs associated with ensuring that certified operations fulfill their obligations. These States will bear the costs of investigating complaints, monitoring use of the State organic seal and organic labeling, and taking corrective action when needed. These States will bear costs related to reviewing an applicant's or certified operation's appeal and for administrative proceedings. Many of these activities are already a routine part of the certification program in States that have programs, and USDA will fill in gaps in enforcement in States that choose not to have programs.

USDA's enforcement costs are costs associated with ensuring that certifying agents fulfill their obligations. In States without an organic program, USDA will bear the costs of investigating complaints, monitoring use of the USDA organic seal and organic labeling, and taking corrective action when needed. USDA will bear costs related to reviewing an applicant's or certified or accredited operation's appeal and for administrative proceedings. USDA expects to effectively carry out its enforcement responsibilities using funds that are already allocated for operating the NOP. To the extent to which we did not estimate the likely noncompliance rate, the cost associated with enforcement remains unknown.

Reporting and Recordkeeping Costs

The Paperwork Reduction Act of 1995 requires an estimate of the annual reporting and recordkeeping burden of the NOP. The estimated annual reporting and recordkeeping burden reported is approximately $13 million. This figure should be understood within the context of the requirements of the Paperwork Reduction Act. The Paperwork Reduction Act requires the estimation of the amount of time necessary for participants to comply with the regulation in addition to the burden they currently have. Information gathered by AMS in auditing activities in conjunction with ISO Guide 65 verifications leads us to believe that the paperwork burden on current certifying agents and certified operators will be 10 to 15 percent greater than their current business practices as a result of this final rule.

Certifying Agents. The regulation will impose administrative costs on certifying agents for reporting and recordkeeping. The actual amount of the additional administrative costs that would be imposed by the rule is expected to be different for those entities that would begin their activities only after the national program is implemented. Certifying agents that currently are active in the organic industry already perform most of these administrative functions; therefore, the additional costs to them would depend upon the extent to which their current practices are different from the requirements of the regulation. An estimate of the cost of compliance is the annual reporting and recordkeeping burden documented in the Paperwork Reduction Act of 1995 analysis. Table 4 shows the estimated annual costs for certifying agents. Certifying agencies each have an estimated burden of 1,068 hours valued at roughly $27,729.

The following list describes several of the most significant administrative requirements or optional submissions and the probable resources required for compliance. Details on the reporting and recordkeeping burdens estimated for each item are in the paperwork analysis.

1. A list of farmers, wild-crop harvesters, and handlers currently certified. This information can be compiled from existing records. After implementation, certifying agents will be required to submit on a quarterly basis a list of operations certified during that quarter.

2. A copy of procedures used for certification decisions, complying with recordkeeping requirements, maintaining confidentiality of client's business-related information, preventing conflicts of interest, sampling and residue testing, training and supervising personnel, and public disclosure of prescribed information concerning operations they have certified and laboratory analyses. These policies may have to be created or modified to conform to the regulation.

3. Documentation on the qualifications of all personnel used in the certification operation, annual performance appraisals for each inspector and personnel involved in the certification, and an annual internal program evaluation. Existing certifying agents may already perform these operations. New certifying agents will have to establish procedures to achieve these things.

4. Documentation on the financial capacity and compliance with other administrative requirements (e.g., fee structure, reasonable security to protect the rights of the certifying agent's clients as provided in the NOP, and business relationships showing absence of conflicts of interest). Some of this information can be compiled from existing records, e.g., fee schedules, and some may be

generated from other sources.

5. Copies must be submitted to USDA of all notices that are issued on certification denial, noncompliance, and suspension or revocation of certification. This requirement will be fulfilled simultaneously with sending notices to applicants or clients.

6. An annual report to the Administrator including an update of previously submitted business information, information supporting any requested changes in the areas of accreditation, and steps taken to respond to previously identified concerns of the Administrator regarding the certifying agent's suitability for continued accreditation. The annual report requirement will draw on records created in the normal course of business.

7. Retention of records created by the certifying agent regarding applicants and certified operations for not less than 10 years, retention of records obtained from applicants and certified operations for not less than 5 years, and retention of other records created or received for USDA accreditation for not less than 5 years. This activity requires records, database management capabilities, and resources (storage space, file cabinets, electronic storage, etc.). In an informal inquiry, AMS found that most existing certifying agents currently retain records for at least 10 years and use both electronic and paper storage. We believe that this requirement will not pose an additional burden on existing certifying agents.

8. Public access to certification records, such as a list of certified farmers and handlers, their dates of certification, products produced, and the results of pesticide residue tests. This requirement will have minimal impact given the requirements for retaining records.

9. Providing program information to certification applicants. To comply with this requirement, certifying agents may need to modify existing standards and practices. The criteria for qualified personnel in the rule may likely result in an increase in labor costs for some existing certifying agents and, initially, an increase in training costs. The amount of additional costs to these certifying agents would depend on the level of expertise among current certification agency staff, the extent to which certifying agents currently rely on volunteers, and the current costs of training certification staff.

Producers and Handlers. The regulation will impose administrative costs on producers and handlers for reporting and recordkeeping. The actual amount of the additional administrative costs that would be imposed by the final rule is expected to be different for those entities that would begin their activities only after the national program is implemented. Producers and handlers who currently are active in the organic industry already perform most of these administrative functions; therefore, the additional costs to them would depend upon the extent to which their current practices are different from the requirements of the final regulation. An estimate of the cost of compliance is the annual reporting and recordkeeping burden documented in the Paperwork Reduction Act of 1995 analysis.

The following list describes several administrative requirements or optional submissions and the probable resources required for compliance.

1. Establish, implement, and update annually an organic production or handling plan. Organic plans are a standard feature in the organic industry and are required

by certifying agents. Thus, producers and handlers who are already involved in organics can rely on their current plan with revisions as needed to meet elements of the national program which are new to them or differ from their current practice. Although producers and handlers are generally aware of the goals of organic plans, current practice may fall short of the rigor that will be required by the national program. New producers and handlers will have higher costs because they will have to prepare a plan from scratch.

2. Maintain records pertaining to their organic operation for at least 5 years and allow authorized representatives of the Secretary, the applicable State organic program's governing State official, and the certifying agent access to records. Existing organic producers and handlers maintain records. New producers and handlers will have to develop records systems. Access is expected to be infrequent, will require little time of the certified entity, and will not require buildings or equipment other than what is required for storing records.

3. Notify the certifying agent as required (e.g., when drift of a prohibited substance may have occurred) and complete a statement of compliance with the provisions of the NOP. Notifications are expected to be infrequent.

The total reporting burden includes creation and submission of documents. It covers the greatest amount of reporting burden that might occur for any single creation or submission of a document during any one of the first 3 years following program implementation; i.e., 2000, 2001, and 2002. The total estimated reporting burden reflects the average burden for each reporting activity that might occur in 1 year of this 3-year period.

The total recordkeeping burden is the amount of time needed to store and maintain records. For the purpose of measuring the recordkeeping burden, the year 2002 is used as the reporting year for which the largest number of records might be stored and maintained.

The annual reporting and recordkeeping burden on producers, handlers, and certifying agents is summarized in table 4. The annual burden on certified producers is estimated at 24 hours and $552. Certified handlers have an estimated burden of 63 hours valued at $1,449. The burden on small producers and handlers who choose to operate as exempt entities is minimal, 1 hour of recordkeeping valued at $23. If this cost is applied to the total estimated number of affected producers, the reporting and recordkeeping cost would be $5,260,100 in 2000 and $6,835,554 in 2002. By applying this cost figure to the estimated total number of affected handlers, the reporting and recordkeeping cost would be $2,143,002 in 2000 and $3,013,552 in 2002.

Barriers to Entry - Importers of Organic Products

Currently, there are no Federal restrictions on importing organic products to the United States in addition to those regulations applying to conventional products. If the imposition of the NOP decreases the importation of organic food into the United States, then this regulatory action may result in some cost.

Small Business Ramifications

USDA's final rule has an 18-month period during which applicants for accreditation would not be billed for hourly services. The rationale for this transition period is to

reduce the costs to certifying agents and, thus, increase the prospect that certifying agents, producers, and handlers will be able to afford to participate in the national program. The choice of 18 months is intended to provide sufficient time for parties desiring accreditation to submit their application and prepare for a site evaluation.

USDA will operate the program partially with appropriated funds, in effect sharing the cost of the program between taxpayers and the organic industry, to respond to public concerns regarding the effects of the regulation on small businesses. Thousands of comments were received opposing the first proposal's fee provisions with most focusing on the substantial impact on small certifying agents.

Congress has expressed public policy concern with the impacts of regulations on small entities generally and with the impacts on the NOP regulations on small entities particularly. The Small Business Regulatory Enforcement Fairness Act of 1996 and the Regulatory Flexibility Act express Congressional concern regarding regulatory burden on small businesses. The Report from the Committee on Appropriations regarding the Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Bill, 2000, includes the following language (U.S. Senate 1999):

"The Committee continues to recognize the importance of organic markets for small farmers and fishermen. The Committee expects the Secretary to construct a national organic program that takes into consideration the needs of small farmers and fishermen. ... Furthermore, the Committee expects that of the funding available for the National Organic Program, necessary funds should be used to offset the initial costs of accreditation services, a subsidy necessary due to the lack of expertise in the Department of Agriculture in the areas of organic accreditation and insufficient data on the industry."

Certifying agents applying for accreditation during the first 18 months following the final regulation will face lower direct costs than subsequent applicants. The cost for later applicants for accreditation will be higher because they will have to pay a $500 application fee and hourly charges for completing their site evaluation. The requirement for accreditation was established in the OFPA in 1990 and the accreditation program was part of the 1997 proposal. Because in this final rule, USDA is using appropriated funds to cover some of the costs of initial accreditation during the first 18 months of the program, certifying agents may set lower fees initially benefiting the producers and handlers who are certified during this period.

It is important to note that many small organic operations may not be certified currently. In California, for example, many small farms are registered but not certified. Even if certifying agents pass on the cost savings of the 18-month period provision to applicants for certification, the cost of certification may be higher than the cost of registration. Hence, becoming a certified operation for small organic producers and handlers may be more costly than the current practices.

The costs imposed on small operations may be mitigated by a $5000 certification exemption to aid the smallest organic operations. However, these operations are still subject to other requirements of the regulation. To the extent that these requirements differ from their current practices, complying with the national standards may be costly for exempt operations.

In addition, the certification exemption allowed under the regulation includes limits on what an exempt operation may do. Without the certification, small organic operations may not display the USDA seal and may not use a certifying agent's seal. If the consumers of organic food view the seals as important information tools on organic food; that is, if consumers of organic products insist on only certified organic products, the inability of small operations to display these seals may prevent them from realizing the price premiums associated with certified organic products.

Industry Composition

The imposition of the national standards may change the composition of the organic industry. Even with the small business exemptions, some small organic operations may choose to exit the industry, and small organic operations may also be discouraged from entering the industry, resulting in a higher concentration of larger firms. On the other hand, it may be easier for small operations to comply with certain NOP standards, such as the livestock standards that prohibit confinement production systems and require 100 percent organic feed. And State and Federal certification and conservation cost-share programs and other government programs may help lower the impact on small producers.

References

Byng, John. 1994. UK and European Community (EC) Legislation. In Handbook of Organic Food Processing and Production. Simon Wright (ed.). pp. 17-30. Glasgow: Blackie Academic and Professional.

California Department of Health Services (DHS). 1999. Report on the Registration of California Organic Processed Food Firms. Sacramento: State of California. September 1999. Figures obtained via personal communication with DHS.

California Department of Health Services. 1995. Report on the Registration of California Organic Processed Food Firms. Sacramento: State of California.

Collins, Shane. 1999. "Rosy future forecast for Europe's organic market," Eurofruit Magazine, September.

Dunn, Julie Anton. 1995a. Organic Food and Fiber: An Analysis of 1994 Certified Production in the United States. U.S. Department of Agriculture, Agricultural Marketing Service.

Dunn, Julie Anton. 1995b. "Organic Foods Find Opportunity in Natural Foods Industry," Food Review, Vol. 18, Issue 3, Sep.-Dec.

Dunn, Julie Anton. 1997. AgriSystems International Reports Certified Organic production in the United States: Half a Decade of Growth. AgriSystems International: Wind Gap, PA.

Emerich, Monica. 1996. Industry Growth: 22.6%. Natural Foods Merchandiser (June): 1-39.

Farmers Market Outlook. 1996. "Waiting for Organic Inspections," September-

October issue.

Farmers Market Outlook. Various issues. www.seasonalchef.com/orgnews1.htm.

Fetter, Robert T. 1999. Economic Impacts of Alternative Scenarios of Organic Products Regulation. Senior Honors Thesis. University of Massachusetts, Amherst, MA.

Fuchshofen, Winfried and Silke Fuchshofen. 2000. "Export Study for U.S. Organic Products into Asia and Europe," Draft Report, Organic Insights, Inc.

Graf, Anita and Luanne Lohr. 1999. "Analysis of certification program costs," Working Paper, Fund for Rural America project, Market Development for Organic Agriculture Products, Grant No. 97-36200-5.

Greene, Catherine. 2000a. "U.S. Organic Farming," USDA, Economic Research Service Issues Center, www.ers.usda.gov.

Greene, Catherine. 2000b. "U.S. Organic Agriculture Gaining Ground," Economic Research Service, U.S. Department of Agriculture, Agricultural Outlook, AGO-270, April.

Hammitt, James K. 1990. Risk Perceptions and Food Choice: An Exploratory Analysis of

Organic - Versus Conventional-Produce Buyers. Risk Analysis, Vol.10, No. 3: 367-374.

Hammitt, James K. 1993. Consumer Willingness to Pay to Avoid Pesticide Residues. Statistica Sinica, 3.

Independent Organic Inspectors Association. 1996. IOIA 1996 Membership Directory. Winona, MN.

International Trade Centre UNCTAD/WTO. 1999. Organic Food and beverages: World Supply and Major European Markets. Geneva: ITC, xiv, 271 p.

Jolly, Desmond A., Howard G. Schutz, Katherine V. Diaz-Knauf, and Jagjeet Johal. 1989. Organic Foods: Consumer Attitudes and Use. Food Technology (November): 60-66.

Jolly, Desmond A. 1991. Differences Between Buyers and Nonbuyers of Organic Produce and Willingness to Pay Organic Price Premiums. Journal of Agribusiness (Spring): 97-111.

Kaufman, Phil. 1998. "Natural Foods Supermarkets Gaining in Popularity," Economic Research Service, U.S. Department of Agriculture, FoodReview, Volume 21, Issue 3, September-December.

Klonsky, Karen and Laura Tourte. 1995. Statistical Review of California's Organic Agriculture, 1992-93. Report prepared for the California Department of Food and Agriculture Organic Program. Cooperative Extension, Department of Agricultural

Economics, University of California, Davis.

Klonsky, Karen and Laura Tourte. 1998a. Statistical Review of California's Organic Agriculture, 1992-95. Report prepared for the California Department of Food and Agriculture Organic Program. Cooperative Extension, Department of Agricultural Economics, University of California, Davis.

Klonsky, Karen and Laura Tourte. 1998b. Organic Agricultural Production in the United States: Debates and Directions. Amer. J. Agr. Econ. Vol. 80, No. 5: 1119-1124.

Klonsky, Karen, Laura Tourte, Robin Kozloff, and Benjamin Shouse. 2000. Statistical Review of California Organic Agriculture, 1995-98, forthcoming.

Lohr, Luanne. 1998. Implications of Organic Certification for Market Structure and Trade. Amer. J. Agr. Econ. Vol. 80, No. 5: 1125-1129.

Mergentime, Ken. 1997. "Organic Fraud Case Deepens; Possible Link Causes OCIA Turmoil," the Natural Foods Merchandiser, March.

Mergentime, Ken and Monica Emerich. 1995. Organic Sales Jump Over $2 Billion Mark in 1994. Natural Foods Merchandiser (June): 74-76.

Mergentime, Ken and Monica Emerich. 1996. Widening Market Carries Organic Sales to $2.8 Billion in 1995. Natural Foods Merchandiser (June): 36-38.

Misra, Sukant, Chung L. Huang, and Stephen L. Ott. 1991. *Georgia Consumers' Preference for Organically Grown Fresh Produce*. Journal of Agribusiness (Fall): 53-65.

National Commission on Small Farms. 1998, A Time to Act: A Report of the USDA National Commission on Small Farms, Miscellaneous Publication 1545, January.

Natural Foods Merchandiser. 1995. Organic Update: Reciprocity Controversies Intensify, Exacerbating Certifier/Manufacturer Tensions. April.

Organic Farming Research Foundation. 1999. Final Results of the Third Biennial National Organic Farmers' Survey. E. Walz, Program Coordinator. Santa Cruz, CA.

Organic Farming Research Foundation. 2000. "Organic Certifiers Directory," on-line publication, www.ofrf.org.

Park, Timothy A. and Luanne Lohr. 1996. *Supply and Demand Factors for Organic Produce*. American Journal of Agricultural Economics, Vol.78 (August): 647-655.

Scott, Mary. 1997. "Olive Oil Company Accused of Fraud," Natural Foods Merchandiser, December.

Scott, Mary. 1997. "OFMA Activists Urge States to Enact Organic Laws," Natural Foods Merchandiser, May.

Scowcroft, Bob. 1998. "Organic Standards and Enforcement: The Public's Right to Know," Organic Farming Research Foundation, Information Bulletin Newsletter, Number 5, Summer Issue.

Thompson, Gary D. 1998. Consumer Demand for Organic Foods: What We Know and What We Need to Know. Amer. J. Agr. Econ. Vol. 80, No. 5: 1113-1118.

Underhill, S. E. and E. E. Figueroa. 1993. Consumer Preferences for Non-Conventionally Grown Produce. Paper presented at the Valuing Food Safety and Nutrition Conference, organized by the NE-165 Regional Research Project. Alexandria, VA, June 2-4.

USDA Foreign Agricultural Service. 1995. Agricultural Situation: Agricultural Highlights, Winter 1995. Report from Austria. Code 24, Sequence No. 007.

USDA Foreign Agricultural Service. 1995. Agricultural Situation: Organic Food. Report from Germany. Code 24, Sequence No. 011.

USDA Foreign Agricultural Service. 1996. Agricultural Situation: Organic Food Market Potential and Regulations. Report from France. Code 24, Sequence No. 002.

USDA Foreign Agricultural Service. 1999a. Report on organic agriculture in Japan. Attache report JA91234. October 5.

USDA Foreign Agricultural Service. 1999b. Report on organic agriculture in France. Attache report FR9070. October 18.

U.S. Senate. 1999. Report 106-80. Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriation Bill 2000. Committee on Appropriations. Page 56.

Weaver, Robert D., David J. Evans, and A. E. Luloff. 1992. Pesticide Use in Tomato Production: Consumer Concerns and Willingness-to-Pay. Agribusiness, Vol.8 No.2: 131-142. Table 1.

TABLE 1.--U.S. ORGANIC PRODUCT SALES, 1990-99 ($ billions)

Year	Export	Direct	Export/Direct Subtotal	Mass Market	Natural Foods Stores	Natural Foods Stores (1999 $)	Total Sales	Total Sales (1999 $)
1990	--	--	--	--	--	--	1	1.27
1991	0.04	0.27	0.31	0.09	0.85	1.04	1.25	1.53
1992	0.07	0.32	0.39	0.12	1.03	1.22	1.54	1.83

1994	0.20	0.39	0.60	0.17	1.54	1.73	2.31	2.60
1995	1/	1/	0.71	0.21	1.87	2.04	2.79	3.05
1996	--	--	1/	1/	1/	1/	3.5	3.72
1997	--	--	--	--	2/	--	--	--
1998	--	--	--	--	3.28	3.35	--	--
1999	--	--	--	--	4.00	4.00	--	--

Source: Natural Foods Merchandiser, New Hope Communications . -- = Not reported.

1/ New Hope Communications reported a combined estimate for export and direct sales in 1995 and reported a different set of subcategories in 1996 and has reported only on sales in natural foods stores since 1996.
2/ New Hope Communications did not estimate natural product store sales in 1997, but the Hartman Group estimated these sales at $4.9 billion.

TABLE 2A.--FIRST-YEAR CERTIFICATION COSTS, FROM GRAF AND LOHR ANALYSIS (dollars)

Certifying agent	Small farm	Medium farm	Large farm	Super farm
CCOF	850	1,750	4,850	51,250
FVO	698	1,737	5,214	51,550
FOG	810	1,860	4,860	51,210
NOFA-VT	335	535	585	585
NC/SCS	700	900	1,000	2,000
OGBA	1,290	3,300	12,300	33,296
OTCO-In	608	1,603	2,517	150,300
OTCO-Out	768	1,698	2,852	12,052
OCIA-WI	315	1,590	6,090	75,090
OCIA-VA	258	320	495	1,745
TDA	90	155	200	575
WSDA	480	1,555	3,040	12,480
Average cost	**579**	**1,414**	**3,623**	**33,276**

Notes:
CCOF--California Certified Organic Farmers
FVO--Farm Verified Organic

NOFA-VT--Northeast Organic Farming Association - Vermont
NC/SCS--NutriClean/Scientific Certification Systems
OBBA--Organic Growers and Buyers Association
OTCO-In--Oregon Tilth Certified Organic, inside Oregon
OTCO-Out--Oregon Tilth Certified Organic, outside Oregon
OCIA-WI--Organic Crop Improvement Association, Wisconsin chapter
OCIA-VA--Organic Crop Improvement Association, Virginia chapter
TDA--Texas Department of Agriculture
WSDA--Washington State Department of Agriculture
Small farm--25 acres with annual sales of $30,000.
Medium farm--150 acres with annual sales of $200,000.
Large farm--500 acres with annual sales of $800,000.
Super farm--3,000 acres with annual sales of $10,000,000.

TABLE 2B.--SUBSEQUENT-YEAR CERTIFICATION COSTS, FROM GRAF AND LOHR ANALYSIS (dollars)

Certifying agent	Small farm	Medium farm	Large farm	Super farm
CCOF	425	1,300	4,350	50,550
FVO	510	1,499	4,851	51,187
FOG	325	845	2,525	25,525
NOFA-VT	300	500	550	550
OTCO-In	454	1,611	2,362	11,363
OTCO-Out	424	1,353	2,207	11,208
OCIA-WI	290	1,565	6,065	75,065
OCIA-VA	233	295	470	1,720
TDA	90	155	200	515
WSDA	330	1,375	2,800	12,000
NC/SCS	700	900	1,000	2,000
Average cost	**371**	**1,036**	**2,489**	**21,971**

Notes:
CCOF--California Certified Organic Farmers
FVO--Farm Verified Organic
FOG--Florida Certified Organic Growers & Consumers
NOFA-VT--Northeast Organic Farming Association - Vermont
NC/SCS--NutriClean/Scientific Certification Systems
OBBA--Organic Growers and Buyers Association
OTCO-In--Oregon Tilth Certified Organic, inside Oregon
OTCO-Out--Oregon Tilth Certified Organic, outside Oregon
OCIA-WI--Organic Crop Improvement Association, Wisconsin chapter
OCIA-VA--Organic Crop Improvement Association, Virginia chapter
TDA--Texas Department of Agriculture
WSDA--Washington State Department of Agriculture
Small farm--25 acres with annual sales of $30,000.
Medium farm--150 acres with annual sales of $200,000.
Large farm--500 acres with annual sales of $800,000.
Super farm--3,000 acres with annual sales of $10,000,000.

TABLE 3.--COSTS OF ACCREDITATION AND CERTIFICATION

Estimated costs to certifying agents during first 18 months	
Application fee [1]	$0
Site evaluation costs (two person team)	
Per diem (3 to 5 days at $85/day)	$510 to $850
Travel (domestic)	$1,000 to $1,200
Hourly charges (not billed during the first 18 months)	$0
Miscellaneous charges (copying, phone, and similar costs)	$50
Total	$1,560 to $2,100

Estimated costs to certifying agents for initial accreditation after first 18 months	
Site evaluation costs (two person team)	
Per diem (3 to 5 days)	$510 to $850
Travel (domestic)	$1,000 to $1,200
Hourly charges (24 to 40 hours at $95/hour))	$4,560 to $7,600
Miscellaneous charges (copying, phone, and similar costs)	$50
Total	$6,120 to $9,700
Annual review fees for certifying agents (2 to 8 hours at $95/hour) [2]	$190 to $760

Estimated costs to producers for certification [3]	
Certification fee (renewals)	$730

Estimated costs to handlers for certification [4]	
Certification fee (initial certification)	$2,337
Certification fee (renewals)	$1,665

[1] Nonrefundable fee that will be applied to the applicant's fee-for-service account.

[2] Certifying agents are required to submit annual reports to USDA. Review of these reports is expected to range from 2 to 8 hours at an approximate rate of $95 per hour.

[3] Estimated certification fees are calculated from Graf and Lohr 1999 which, for a selection of certification agents, provides certification costs for four hypothetical farm sizes: (1) small farm (family farm): 25 acres, $30,000 annual sales, 5 hours to certify; (2) medium farm (cottage industry): 150 acres, $200,000 annual sales, 6 hours to certify; (3) large farm (commercial farm): 500 acres, $800,000 annual sales, 8 hours to certify; and (4) super farm: 3,000 acres, $10,000,000 annual sales, 16 hours to certify. Our estimated certification fees only include those charged for small and medium farms because most organic producers fall into these categories as defined by Graf and Lohr. In the 1997 OFRF survey, 90 percent of respondents had gross organic farming income of less than $250,000,

with 82 percent less than $100,000.

The average current certification cost for most organic producers is about $1,025 for the first year of certification ($579 for small and $1,414 for medium farms) and about $705 for subsequent years ($371 for small and $1,036 for medium farms). Approximately $25 is added to cover the costs associated with the National Organic Program for an estimated first-year certification fee of $1,000 and subsequent-year certification fee of $730 for producers. Larger producers could expect higher fees.

[4] Because Graf and Lohr do not estimate certification fees for handlers, we estimate these fees by applying a ratio of handler-to-producer certification fees from the regulatory impact assessment from 1997. The ratio is 2:28 and results in estimated fees of $2,337 and $2,665, respectively.

TABLE 4.--ESTIMATED ANNUAL REPORTING AND RECORDKEEPING BURDEN

Type of respondent	Annual hours per respondent	Hourly rate	Annual cost
Certified producer	24	$23	$552
Certified handler	63	$23	$1,449
Exempt producers and handlers	1	$23	$23
Certifying agency	1,068	$27	$27,729

Note: Estimates derived from Paperwork Reduction Act of 1995 analysis.